Tenofovir

Catalog No.C07775 Batch:C0777503

Product Datasheet

Technical Data

Formula	$C_9H_{14}N_5O_4P$					
Molecular Weight	287.21	**CAS No.**	147127-20-6			
Solubility (25°C)*	In vitro	DMSO	5 mg/mL (17.4 mM)			
		Water	4 mg/mL (13.92 mM)			
		Ethanol	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Concentration \ Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.4818 mL	17.4089 mL	34.8177 mL
5 mM	0.6964 mL	3.4818 mL	6.9635 mL
10 mM	0.3482 mL	1.7409 mL	3.4818 mL
50 mM	-	-	-

Biological Activity

Description	Tenofovir (GS-1278) blocks **reverse transcriptase** and hepatitis B virus infections.
Targets	Reverse transcriptase [1]
In vitro	Tenofovir reduces the viral cytopathic effect of HIV-1(IIIB), HIV-2(ROD) and HIV(EHO) with EC50 of 1.15 μg/mL, 1.12 μg/mL and 1.05 μg/mL in MT-4 cells. This compound also reduces the viral cytopathic effect of SIV(mac251) , SIV(B670) ,SHIV(89.6) and SHIV(RTSHIV). [1] It is uniquely active against multinucleoside-resistant HIV expressing the Q151M mutation, but shows reduced susceptibility to the T69S insertion mutations. [2] This chemical inhibits hepatitis B virus (HBV) activity in HepG2 2.2.15, HepAD38 and HepAD79 cells. [3] It (4 μM) completely inhibits the growth of HIVIIIB in MT-2 cells. This compound inhibits synthesis of negative strand strong-stop DNA with IC50 of 9 μM for wild-type RT, 6 μM for M184V RT and 50 μM for K65R RT. [4]
In vivo	Tenofovir (30 mg/kg) completely prevents SIV infection in all macaques without toxicity. This compound reduces plasma viral RNA levels to undetectable, with parallel decreases in the infectivity of plasma and infectious cells in peripheral blood mononuclear cells and cerebrospinal fluid (CSF) and stabilization of CD4+ T-cell numbers. It completely abrogates HIV infection via intravaginal exposure in pig-tailed macaques. [5]
Features	Tenofovir disoproxil fumarate is the prodrug form of tenofovir.

Protocol (from reference)

Animal Study:[1]

- **Animal Models**
  Macaques
- **Dosages**
  30 mg/kg
- **Administration**
  Subcutaneously

References

https://pubmed.ncbi.nlm.nih.gov/15040537/ https://pubmed.ncbi.nlm.nih.gov/11562951/ https://pubmed.ncbi.nlm.nih.gov/10760047/

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RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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